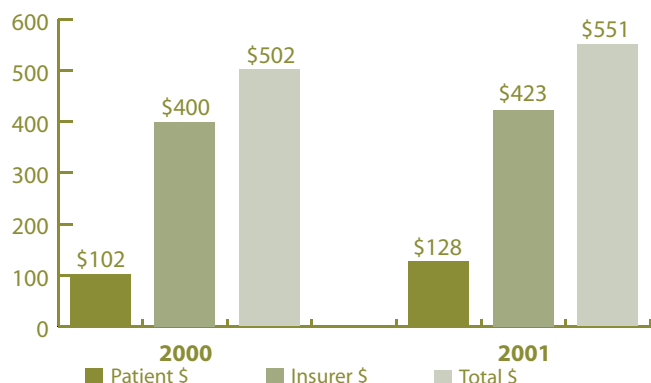


## Increases in Patient Co-pays Outpaced Overall Drug Spending in 2001

### EXPENDITURES FROM THE PAYER/SYSTEM PERSPECTIVE<sup>1</sup>

Marylanders with prescription drug coverage bear an increasing share of drug expenditures. As shown in Figure 1, annual total drug payments per insured user went up by 10 percent, out-of-pocket liability (co-payments plus any deductible amounts) per user of insured drugs rose 25 percent from \$102 in 2000 to \$128 in 2001. The portion paid by insurers rose by 6 percent from \$400 to \$423. The differing rates of increase for patient liability and insurer payments mean that the patients' share of total spending on covered drugs jumped from 20 percent to 23 percent between 2000 and 2001.<sup>2</sup>

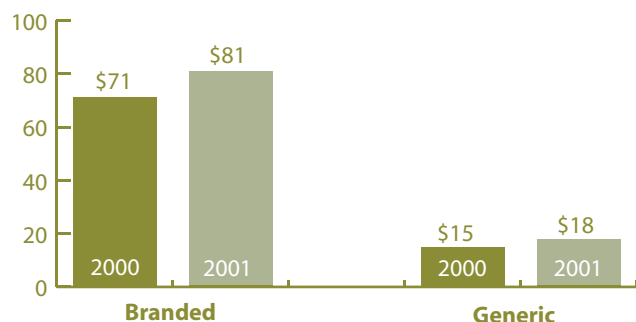
**Figure 1: Annual Insured Prescription Expenditures Per Patient**



#### Why did total payments per patient increase?

Total payments increased in 2001 due to increases in spending per prescription. Spending per prescription went up 20 percent for generics and 14 percent for branded drugs (15 percent overall). As shown in Figure 2, in 2001, the average total payment was \$18 for a generic drug prescription and \$81 for a branded drug. Overall, the number of prescriptions per patient dropped slightly from a mean of 9.7 prescriptions per year in 2000 to 9.4 in 2001. Patients had a median of 5 prescriptions in each year, in other words, one-half of the patients had more than 5 and the other half had fewer.

**Figure 2: Average Total Payment Per Prescription**



### Patterns of Drug Use Remained the Same in 2000 and 2001

The overall growth in spending occurred even though the distribution of drug expenditures between generic and branded drugs remained nearly constant. Use of generic drugs accounted for 36 percent of prescriptions in both years and over 10 percent of the dollars spent in 2000 and 11 percent in 2001. The distribution of spending among the top therapeutic drug categories was similar in 2000 and 2001. Specific classes of drugs, (e.g. antibiotics, statins, etc.) retained their shares in each year. Patients did not significantly increase their use of newer branded drugs, which are often more expensive than older branded drugs<sup>3</sup>. In 2000, about 4 percent of prescriptions were for branded drugs less than 4 years old. A year later, the percentage was closer to 5 percent. In terms of total spending, branded drugs accounted for nearly 90 percent in both years. Additionally, the top five therapeutic categories of drugs account for 37 percent of total drug expenditures in both 2000 and 2001.

*Since overall usage patterns changed little, the increase in total payments could only be due to price increases and/or patients switching to more expensive drugs within the examined categories. How much of the growth in per-user spending is due to price increases for the same drugs, versus a shifting of prescriptions from lower priced drugs to higher priced drugs within the same drug categories, is unknown. The scope of this study did not encompass a detailed examination of price and volume changes at the individual drug level.*

#### Why did the patients' share increase?

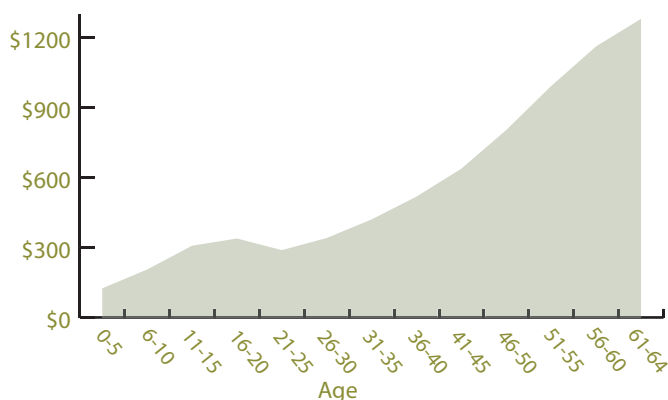
Insurers raised the standard co-payments per prescription in 2001. For branded drugs, the median co-pay increased to \$15 in 2001, versus \$10 the previous year, which is a 50 percent increase. For generic drugs, some insurers raised co-pays from \$5 to \$7 or \$8, increasing the overall average by 18 percent (\$6.50 to \$7.70). Because patient co-payments grew by a higher rate than did the total reimbursement for each prescription, the patients' share of drug payments increased and the insurers' share fell.

### 50-Year Old Patients Average Twice the Drug Expenditures of Those Aged 35

Prescription drug spending goes up significantly with the age of the patient and differs by gender. A five-year old averaged \$125 per year in total insured drug expense, a 20-year old averaged \$320, a 35-year old averaged \$420, a 50-year old averaged \$805, and a 64-year old averaged \$1,280. The increased spending was a combination of both more prescriptions per year and the use of higher priced prescriptions. Among the younger age groups, the growth in annual spending was driven more by an increase in the average "price" (insurer and patient payment) of the

prescriptions being used than in the number of prescriptions. But by ages 30-34, the number of prescriptions out-weighed “price” as the more important factor in explaining expenditure increases with age. Children ages 0-5 with prescription use in 2001 averaged 4.2 prescriptions per year at an average “price” of \$30 per prescription. Adults ages 31-35 averaged 7.8 prescriptions annually at an average price of \$54 each which is an 86 percent increase in number of prescriptions and an 80 percent increase in average “price” compared to the youngest children. Patients ages 61-64 averaged 19.6 prescriptions, each with an average “price” of \$66. Compared to patients ages 31-35, they averaged 150 percent more prescriptions and the average “price” of their drugs was 22 percent higher. Compared to the youngest children, they average nearly five times the number of prescriptions and the average “price” of their prescriptions was more than twice as high. Additionally, females accounted for more of the patients (56 percent) and the expenditures (59 percent) in 2001 than males. All of the above patterns regarding expenditures and utilization by age and gender were also observed in 2000.

**Figure 3: Average Annual Insured Prescription Expenditure by Age, 2001**



### 21 Percent of Patients Account For 74 Percent of Insured Drug Spending

Prescription drug use among patients is similar to the use of other health care services, with a relatively small percent of patients accounting for most of the expenditures. The median total insured prescription drug payment per patient in 2001 was \$178, meaning that one-half of all insured non-elderly patients with drug use had annual expenditures of \$178 or less. But, as shown in Table 1, nearly one-fourth – 23 percent – of the patients have annual expenditures (insurer payments plus patient payments) of less than \$50; as a group their drug expenditures account for just 1 percent of all insured drug payments. In contrast, 21 percent of the patients have annual expenditures of more than \$700. Fifteen percent have spending over \$1,000 per year.

Some prescription drug plans are now requiring patients to reach a deductible amount before their prescription coverage kicks in. Table 1 shows that if all plans in 2001 had required a \$250 deductible, then 58 percent of the patients would have paid all of their insured drug expenditures. This would represent a 49 percent increase in total patient liability, and a 15

percent decrease in insurer payments. The relative impact of this change is greater for patients under age 55, who generally have relatively low annual drug expenditures. Their out-of-pocket (OOP) spending would have risen 57 percent, compared to a 19 percent rise in OOP spending for those over age 55. The increase is lower for the older population of patients because this age group contains more of the high-expenditure patients who would see no increase in their OOP spending – they are already paying significantly more than \$250 per year.

**Table 1: Distribution of All Patients, All Insured Drug Expenditures, Insurer Payments, Patient Payment and Patients' Share of Total Expenditures by Annual Expenditure per Patient, 2001**

Expenditures Per Patient for 2001	% of All Patients	% of All Expenditures	Insurer Payments as % of Total	Patient Payments as % of Total	Patients' Share of Payments in each patient group
0-\$50	23%	1%	0.4	0.7	66%
51-100	14	2	1.1	1.0	45
101-150	9	2	1.4	0.9	40
151-200	6	2	1.4	0.8	39
201-250	5	2	1.5	0.8	36
251-300	4	2	1.4	0.8	35
301-350	4	2	1.4	0.8	35
351-400	3	2	1.4	0.8	34
401-500	5	4	2.6	1.3	32
501-700	6	7	4.9	2.0	29
701-1000	6	9	6.7	2.4	27
1001-2000	9	22	16.9	5.1	23
2001-5000	5	26	21.0	4.7	18
5001-10000	1	10	8.1	1.2	13
10001-50000	0	7	5.8	0.4	6
>50000	0	0	0.2	0.0	1
ALL	100%	100%	76.8	23.2	23%

### Insurers' Share of Spending Increases as the Patients' Annual Expenditures Rise

Table 1 also shows the patients' and insurers' contributions to the total payments for each expenditure category of patients. The 23 percent of patients who have \$50 or less in annual insured drug expenditures, as a group, pay the majority (66 percent) of their insured drug expenditures, but they are the only segment of patients that do so. As the annual expenditure per patient rises, the portion paid OOP by patients steadily declines, so that patients with \$401-500 in annual expenditures directly pay about one-third of their drug expenditures, and those with the highest level of expenditures directly pay just 1 percent of their expenditures. Table 1 also illustrates that nearly half of all insurer payments go toward providing prescriptions to patients with annual expenditures in excess

of \$2,000, but these patients account for just 27 percent of all patient liability payments.

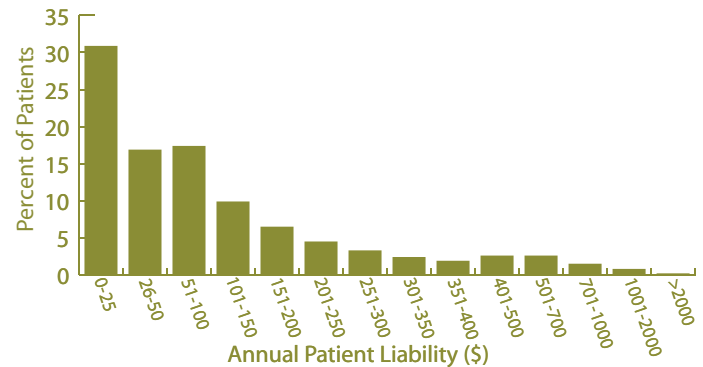
The decline in the patients' share as total drug expenditures rise results from two factors. First, most insurers use a flat co-payment schedule (e.g., generic, \$5; branded drug on formulary, \$15; non-formulary branded drug, \$25) to determine a patient's liability, so that a patient's annual liability is basically determined by the number and type (generic, etc.) of prescriptions rather than the "price" of the prescriptions. With each additional insured prescription, a patient's contribution increases by a relatively small amount while the total drug expenditure increases by the "price" of each new prescription. As long as the prescription "price" is above the co-payment, the patient's share of total expenditures will decline with each additional prescription. Second, persons with high drug expenditures are generally receiving higher "priced" prescriptions, and because a \$15 co-pay accounts for a smaller percentage of a higher priced prescription, their patient liability share will be smaller than if they had the same number of less expensive prescriptions.

#### OOP SPENDING FROM THE PATIENT'S VIEWPOINT

Although the per-patient annual OOP payment in 2001 calculated to \$128, the picture of OOP spending from the patient perspective is different. This is due to two factors. First, although most patients had relatively low levels of drug expenditures, some patients had extremely high expenditures and, consequently, higher OOP payments. The high payments made by these patients pushed the overall average OOP payment well above the typical (or median) patient payment. Second, the amount paid OOP by each patient varied widely even among patients within the same annual expenditure range. Policymakers need to bear in mind that the majority of patients do not have payment patterns similar to the overall average. This section outlines OOP payment from the patients' perspective.

Figure 4 shows what proportions of patients had annual OOP payments within certain ranges in 2001. (A similar distribution held in 2000.) Half of all patients had an annual liability of less than \$57, another 25 percent had a liability of \$57-154, and just 10 percent had a liability greater than \$328. Because of the variability in spending among patients, a wide range of annual expenditures are associated with the patients in each OOP spending range. The 31 percent of patients with less than \$25 in annual liability had annual expenditures ranging from \$6-136 (10<sup>th</sup> percentile-90<sup>th</sup> percentile), with a typical, or median, annual expenditure of \$30. The 17 percent of patients with a liability of \$51-100 had annual expenditures ranging from \$84-581 (10<sup>th</sup> percentile-90<sup>th</sup> percentile), with a median of \$211. Less than 1 percent of patients had liabilities of more than \$1,000. The range (10<sup>th</sup> percentile-90<sup>th</sup> percentile) of annual expenditures associated with these patients was \$2,536-9,297 (median \$4,500) for those with OOPs of \$1,001-2,000 and \$4,254-16,131 (median \$7,789) for those with OOPs of more than \$2,000.

**Figure 4: Distribution of Patients by Annual Patient Liability, 2001**



The typical, or median, proportion of drug expenditures contributed directly by patients with a given drug expenditure level differs from the average patient share for the entire group of patients (shown in Table 1) for reasons discussed at the start of this section. The percentage paid OOP by the typical patient in each annual expenditure range is generally somewhat below the "group average" shown in Table 1. But for patients with less than \$50 in annual expenditures, the typical (median) patient paid 86 percent of their annual drug expenditures, well above the 65 percent average share for this group of patients. The reason for the difference is that many of the patients in this annual spending range received just one or two inexpensive prescriptions that often did not exceed the required co-pay, making their share of drug expenditures near 100 percent. But there are also patients in the 0-\$50 expenditure category who paid far less than 86 percent of their annual drug expenditures: a fourth of the patients in this category paid less than half of their annual drug expenditures. Similarly, there is a wide variation in the percentage of drug expenditures paid directly at every level of annual expenditure.

Figure 5 summarizes the distribution of patients' OOP shares across all patients in 2001 and demonstrates the variability in patients' OOP shares. Half of the patients are concentrated in the 10 percent to 40 percent patient share ranges, but no particular percentage range is dominant. The midpoint (median) of the distribution is 34 percent: half of all patients paid less than 34 percent of their annual drug expenditures and half paid a higher share.

**Figure 5: Distribution of Annual Patient Out-of-Pocket Share, 2001**

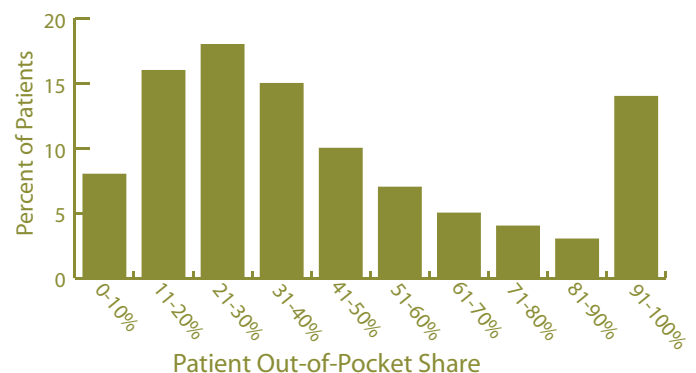


Figure 5 shows that 14 percent of the insured patients have very high OOP shares, ranging from 91 to 100 percent. About 11 percent of patients paid 100 percent of their annual insured drug expenditures, with no insurer contribution (data not shown here). For nearly all of these patients who paid all their drug expenditures, the lack of insurer contribution apparently resulted from the fact that the “price” of each prescription seems to have been at or below their required co-payment. Most of these patients had an annual expenditure of under \$15 as a result of 1 or 2 prescriptions. These patients did not purchase their insurance to assist with drug expenditures, but rather to protect themselves from the possibility of high drug expenditures associated with an accident or unexpected illness. And although these patients did not benefit from any insurer payments for their drugs, their insurance did keep their OOP spending down by providing their drugs at insurer-negotiated discount prices.

## IMPLICATIONS FOR POLICYMAKERS

Spending for prescription drugs, like spending for many health care services, is highly skewed toward a small percentage of patients. Twenty percent of patients with the highest use accounted for about 75 percent of the total spending in 2001. These patients tended to be over 50 years old and had \$700 or more in total covered drug spending. Out-of-pocket payments represented less than 25 percent of total spending for these groups. At the other end of the distribution are about 58 percent of patients that had annual covered prescription drug expenditures under \$250. Patients in these categories paid 50 percent or more of drug expenses through co-payments and deductibles. Overall, this group accounted for about 9 percent of covered drug spending and, of course, paid for about 58 percent of premium payments.

During the period 2000-2001, the 25 percent increase in patient co-payments did not appear to dampen patient demand for prescription drugs, nor did increases in patient liability appear to affect patient preferences for branded versus generic drugs. The average and median number of drugs were nearly constant over the two year period. These results must be interpreted cautiously due to the limited and preliminary nature of this study. A 2002 Harris Survey shows that patients’ use of prescription drugs is sensitive to out-of-pocket costs, which can be a barrier to prescription drug compliance.<sup>4</sup> This survey of adults found that even among those with drug OOP spending of \$21-50 per month, 20 percent did not fill at least one prescription due to cost. As OOP spending increases, compliance declines: among those with monthly drug OOP spending of \$51-150, 42 percent failed to fill at least one prescription and about one-third used a lower dose or took the drug less often than prescribed to make the drug last longer due to cost. For those with higher monthly OOP drug spending,

these non-compliance percentages are just under 50 percent. Regarding use of generic drugs by patients with drug coverage, the relatively small price differences in co-pays for the generic and branded versions of a drug by themselves may not be sufficient to substantially increase use of generic drugs. Patient education programs; however, can counter beliefs that generics are inherently inferior to the branded versions in clinical effect and point out the substantial price differences, with their differing impact on future insurer premiums. A patient education program has been shown to double the rate of use of generic drugs.<sup>5</sup>

As the pressure to slow drug spending continues, policymakers must devise reforms that encourage patients with little drug use to purchase a drug benefit. Recent changes that establish patient deductibles for drugs present disincentives to individuals with little expected drug use. The significant benefit of purchasing drugs at insurer-negotiated discount prices may ensure continued participation. However, a significant decline in participation among patients with low use could lead to rapid acceleration in drug premiums for those that require the coverage.

## Endnotes

<sup>1</sup> Results presented in this Spotlight are based on an analysis of the Maryland Medical Care Database (MCDB). MCDB includes records of prescription claims made to Maryland private insurers and HMO’s on behalf of non-elderly residents in 2000 and 2001. It excludes claims where the insurer did not manage the drug benefit, i.e., where the employer contracted directly with a Pharmacy Benefit Manager. Claims analyzed for this analysis totaled 14.2 million in 2000, and 13.4 million in 2001. In 2001, these accounted for \$783 million in total payments, representing a combined 55 percent of the estimated \$1.1 billion spent by all private payers and 24 percent of the \$759 million spent by consumers in Maryland for prescription drugs in 2001. Analysis done on a 100 percent sample, except where otherwise noted.

<sup>2</sup> “Patient Liability for Prescriptions – Trends in Maryland,” Shaya, FT, Blume S, Mullins CD, Center on Drugs and Public Policy, University of Maryland School of Pharmacy. Report to the Maryland Health Care Commission, August 2003 (Presentation to the Commission, July 17, 2003).

<sup>3</sup> (In our data, branded drugs new in the previous 3 years averaged \$112 in total payments per prescription vs. \$78 for brands older than 3 years.)

<sup>4</sup> Harris Interactive. Higher Out-of-Pocket Costs Cause Massive Non-Compliance in the Use of Prescription Drugs, and This is Likely to Grow. Health Care News. 2002;2(22). Available on the Internet at <http://www.harrisinteractive.com/>. Survey inquired about drug use in the previous 12 months.

<sup>5</sup> Valles JA et al. A prospective multicenter study of the effect of patient education on acceptability of generic prescribing in general practice. Health Policy. 2003 Sep;65(3):269-275.